

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 4 April 2008 has been entered.

Response to Amendments and Arguments

2. Applicant's arguments filed 14 March 2008 have been fully considered but they moot in view of the new grounds of rejection presented herein.

Applicant failed to respond, either by argument or amendment, to the previous objection to the specification. Accordingly, the objection is maintained and reiterated herein.

Specification

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Objections

4. Claims 1-11 are objected to for reciting the term "formed of", as it is unclear as to whether the term is inclusive or exclusive of the elements recited after it.

5. Claims 2 and 13 are objected to for failing to further limit the structure of parent claims 1 and 12, respectively. Claims 2 and 13 recite nothing more than limitations directed towards the process by which the claimed structure is made, and it is unclear how these limitations affect the structure of the claimed invention.

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6. Claims 12-20 are objected to for reciting limitations placed upon structures which are not claimed. Claim 12, for example recites limitations for the transceiver unit and lens in lines 3-4 and 6, respectively, neither of which are positively recited as part of the claimed invention. Claims 13-20 are similarly objected to for depending from claim 12 and thereby inheriting the defects of that claim.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 1-3, 8-10, 12-14 and 19 are rejected under 35 U.S.C. 102(b) as being unpatentable over King (US Patent No. 5,127,410), hereinafter King ('410), previously made of record.

Regarding claims 1, 3, 8-10, 12, 14 and 19, King ('410) teaches an ultrasonic probe comprising a first partial enclosure formed of hard plastics having an opening and a second partial enclosure integrally formed with the first enclosure so as to cover the opening at the tip, wherein the second partial enclosure is formed of a flexible (soft) plastic film in contact with the transmission/reception surface of the ultrasonic transducer, and the ultrasonic transceiver unit extends through the opening (Abstract, col. 2 lines 39-49, col. 4 lines 5-7). King ('410) states that the film is bonded to a "film backing lens," (Abstract) which constitutes the acoustic lens as claimed. The flexible plastic Mylar film of King ('410) constitutes the thermoplastic polymer claimed in the instant application. Regarding the limitation "the acoustic lens [is] positioned between and in direct contact with...the transceiver unit", since claim 1

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recites that the transceiver unit comprises the acoustic lens, this limitation recites nothing more than that the lens is in contact with itself. Accordingly, the reference lens meets this limitation.

King ('410) does not expressly teach that the lens is in direct contact with the second enclosure/flexible plastic film. Applicant has not disclosed that arranging the lens to be in direct contact with the second enclosure solves a particular problem or presents a specific advantage over the prior art. It has previously been held that the elimination of a prior art element, where its function is not desired, is obvious and unpatentable (*Ex parte Wu*, 10 USPQ 2031 (Bd. Pat. App. & Inter. 1989); *In re Larson*, 340 F.2d 965, 144 USPQ 347 (CCPA 1965); *In re Kuhle*, 526 F.2d 553, 188 USPQ 7 (CCPA 1975)). Furthermore, one of ordinary skill in the art would expect Applicant's invention to work equally well with or without a grease layer between the lens and the second enclosure, as King ('410) teaches that the grease layer is acoustically conductive and therefore would not attenuate the transmitted wave (col. 4 lines 4-15). Accordingly, it would have been obvious to one of ordinary skill in the art at the time of invention to have modified the transducer of King ('410) to eliminate the grease layer 31 between the lens and the film in order to achieve the claimed invention.

Regarding claims 2 and 13, King ('410) is silent with respect to the process by which the transceiver unit is formed. The claimed phrase "wherein the integrated molding of the first partial enclosure and the second partial enclosure is performed by double molding" constitutes a product by process limitation. Product by process claims are not limited to the manipulations of the recited steps, only to the structure implied by the step. Thus, even though King ('410) does not expressly discuss the process by which the enclosures are formed, it appears that the product in King ('410) would be the same or similar as that claimed.

10. Claims 4-7, 11, 15-18, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over King ('410) as applied to claims 1 and 12 above, further in view of Silber (US Patent No. 5,928,154), hereinafter Silber ('154), previously made of record.

Regarding claims 4-7 and 15-18, King ('410) substantially teaches all features of the present invention as previously discussed for claim 1. King ('410) is silent with respect to specific types of hard plastic which may be used for the first enclosure. In the same field of endeavor, Silber ('154) teaches an ultrasonic probe having a first enclosure made of thermoplastic material, polyethylene, polybutylene, or any other material blend providing properties of both elastomers and plastics (col. 7 lines 51-56, col. 8 lines 40-46). Silber ('154) teaches these materials for enhancing the ergonomic quality of the probe while allowing the sonographer to maintain sufficient control of the probe (col. 3 lines 16-23, col. 3 line 65-col. 4 line 2). It would have been obvious to one of ordinary skill in the art at the time of invention to modify

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the first enclosure of King ('410) to be made of any of the materials of Silber ('154), in light of the motivation provided by Silber ('154).

Regarding claims 11 and 20, Silber ('154) further teaches that the housing of the probe may be color-coded to facilitate identification of the type or model of the probe, which also includes different center frequencies as claimed in the instant application (col. 9 lines 12-14). It would have been obvious to one of ordinary skill in the art at the time of invention to modify the probe of King ('410) to also comprise a color-coding indicative of the center frequency of the probe to permit the sonographer to identify the probe type, in view of the teachings of Silber ('154).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PARIKHA S. MEHTA whose telephone number is (571)272-3248. The examiner can normally be reached on M-F, 8 - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Casler can be reached on 571.272.4956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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